REMARKS

Claims 1-8 and 12-17 are pending herein.

1. Claims 1 and 7-9 were rejected under 35 USC 103(a) as being unpatentable over Iijima et al. (5,650,378) or Iijima et al. (6,214,772) in combination with Savvides et al. (2004/0168636), Sioshansi et al. (5,236,509) or Maishev et al. (6,236,136) further in combination with Slaughter et al. (6,783,637). This rejection is respectfully traversed for the following reasons.

Claims 1 and 7 are drawn to a method of coating at least one substrate with a buffer layer. The method particularly includes feeding the at least one substrate through a deposition zone of a vacuum deposition chamber wherein a coating is applied while the at least one substrate is bombarded by ions from a dual RF-ion source. The dual RF-ion source includes a first and a second RF-ion source aimed at respective first and second portions of the at least one substrate. Additionally, a separator is disposed between the first and second RF-ion source. The separator longitudinally bisects the substrate block and functions to barricade impingement of ions from the first RF-ion source on the second portion and from the second RF-ion source of the first portion.

Iijima '378 and Iijima '772 disclose processes for deposition of a buffer on a substrate using a single RF-ion source. Iijima '378 and Iijima '772 fail to recognize the challenges associated with processing at least one substrate using multiple RF-ion sources within a single deposition zone. In particular, Iijima '378 and Iijima '772 fail to recognize the need to prevent stray ions from impinging on the at least one substrate. Savvides discloses a process of using two ion beams impacting the same area of the substrate to improve the texture of the buffer film. Sioshansi discloses a modular system for coating a substrate. Specifically, Sioshansi discloses the use of multiple deposition chambers, each having separate RF-ion sources. Maishev discloses multiple ion beams for the treatment of a substrate. The ion beams overlap so as to ensure uniformity in the distribution of the ion currents. However, Maishev is not directed to ion beam assisted deposition (IBAD), and thus is not concerned with the angle of the ions striking the

substrate. As such, Maishev fails to recognize the challenges associated with an IBAD system using multiple ion sources striking separate portions of the deposition zone. Iijima '378, Iijima '772, Savvides, Sioshansi, and Maishev, alone or in combination, fail to recognize the need to prevent stray ions from impacting the substrate when non-overlapping RF-ion sources are used within a deposition zone, and clearly fail to disclose ore suggest a coating method incorporating a separator as claimed.

The PTO acknowledges that Iijima '378, Iijima '772, Savvides, Sioshansi, and Maishev fail to teach a separator between the two RF-ion sources. The PTO relies upon Slaughter for disclosure a separator. Slaughter teaches a system in which a separator is placed between two targets, not the RF ion sources, to prevent cross contamination of the targets. Further, material from two sources is deposited onto the same area of the substrate. As such, Slaughter fails to appreciate the need to prevent stray ions from impacting the substrate when non-overlapping RF-ion sources are used within a deposition zone, and further, fails to cure the deficiencies of Iijima '378, Iijima '772, Savvides, Sioshansi, and Maishev. Namely the references, alone or in combination, fail to disclose or suggest a coating method incorporating a separator functioning to barricade impingement of ions from the first RF-ion source on the second portion and barricade impingement of ions from the second RF-ion source on the first portion.

Applicants submit that the PTO's reliance upon Iijima '378, Iijima '772, Savvides, Sioshansi, Maishev, and Slaughter is deficient. Accordingly, withdrawal of the rejections based on Iijima '378, Iijima '772, Savvides, Sioshansi, Maishev, and Slaughter is respectfully requested.

2. Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima et al. (5,650,378) or Iijima et al. (6,214,772) in combination with Savvides et al. (2004/0168636), Sioshansi et al. (5,236,509) or Maishev et al. (6,236,136) further in combination with Slaughter et al. (6,783,637) still further in combination with Fritzmeier et al. (6,797,313). Claims 3-6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima et al. (5,650,378) or Iijima et al. (6,214,772) in combination with Savvides et al. (2004/0168636), Sioshansi et al. (5,236,509) or Maishev et al.

(6,236,136) further in combination with Slaughter et al. (6,783,637). Applicants respectfully submit the independent claims upon which these claims depend are in allowance. Accordingly, withdrawal of these rejections are respectfully requested.

3. Applicants have added claim 12 to further distinguishes over Iijima '378, Iijima '772, Savvides, Sioshansi, Maishev, and Slaughter. Claim 12 is drawn to a method of continuously coating at least one substrate with a buffer layer as a support for a ceramic superconducting material. Claim 12 particularly calls for a single deposition source, first and second RF-ion sources, and a separator located within an internal volume defined by a plurality of walls of the deposition chamber. Additionally, the separator is disposed between the dual RF-ion sources and oriented along a direction that bisects the substrate block, functioning to barricade impingement of ions from the first RF-ion source on the second portion and barricade impingement of ions from the second RF-ion source on the first portion.

Iijima '378, Iijima '772, Savvides, Sioshansi, Maishev, and Slaughter in that the references, alone or in combination, fail to teach or suggest a single deposition source, first and second RF-ion sources, and a separator located within an internal volume defined by a plurality of walls of the deposition chamber. Sioshansi teaches separate deposition chambers 16, 18, 20 are separated by deposition chamber walls. Deposition chambers 18, 20 include a single ion source 113 and two deposition sources 115. See Fig. 4 of Sioshansi. Slaughter teaches two deposition sources (targets 50, 52) and a separator located between the deposition sources. The separator does not function to barricade impingement of ions from the first RF-ion source on the second portion as ions from the ion sources 38, 40 impinge on the targets causing material to sputter onto substantially the substrate.

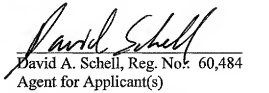
Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to contact Applicants' undersigned attorney at the number listed below.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

2/29/08
Date



David A. Schell, Reg. No.: 60,484
Agent for Applicant(s)
LARSON NEWMAN ABEL
POLANSKY & WHITE, LLP
5914 West Courtyard Drive, Suite 200
Austin, Texas 78730
(512) 439-7100 (phone)
(512) 439-7199 (fax)